

# ABSTRACT OF SANITARY REPORTS.

VOL. VI.

WASHINGTON, D. C., APRIL 24, 1891.

No. 17.

[Published at the Marine-Hospital Bureau in accordance with act of Congress of April 29, 1878.]

## UNITED STATES.

*Report of official experiments with the Koch "lymph" in progress.*

WASHINGTON, D. C., April 14, 1891.

SIR: I have the honor to submit the following report upon the progress of the experiments with tuberculin at this hospital:

In the case of lupus, since my last report, the doses of the remedy have been steadily increased up to .055 gram, with which amount there was no general "reaction" beyond 37.8° C. The progress of the ulcer towards cure seems to have been completely arrested during the past week. The granulations look perfectly healthy; the excavated spots have, in a large degree, filled up, but the skinning over has not progressed as it was hoped it would do. Twice the edges of the ulcer were stimulated by the application of silver nitrate, with but little, if any, effect. To-day, therefore, with a view to expediting cure, twenty-one skin grafts were disposed around the margins and upon the surface of the ulcer. The patient is in excellent physical condition, and, during the past two weeks, has gained 1.136 kilos in weight.

Case No. 6 continues to show slight, but steady, improvement. The areas of dullness upon his chest have markedly diminished, the breathing sounds are nearly normal, all hectic symptoms are diminished, and the sputum remains free from tubercle bacilli. Treatment has not been resumed in case No. 7, and has been abandoned in case No. 8.

Case No. 12, in the past week, has shown marked improvement. The hectic symptoms, cough, and expectoration have all diminished, and very few tubercle bacilli are found in his sputum.

Very respectfully, your obedient servant,

H. D. GEDDINGS,  
Assistant Surgeon, M.-H. S.

To the SUPERVISING SURGEON-GENERAL.

FLORIDA—Pensacola—Yellow fever on steamship *Curlew* while at sea.—The following telegram, dated April 18, 1891, has been received:

British ship *Curlew*, forty-seven days from Rio, arrived yesterday. Had eighteen cases yellow fever on passage, three resulting fatally. Last case and death March 19. Ordered the vessel to Chandeleur Station, and she has left the harbor.

R. W. HARGIS,  
President Board of Health.

*Vessels that have refused or neglected to take bills of health, as reported by the United States consul.*

British steamship *Jolain*, from Barbadoes, W. I., for New York, March 6, 1891.

British steamship *Bermuda*, from Barbadoes to New York via St. Lucia, March 16.

British steamship *Carribbee*, from Barbadoes for New York, March 22.

*Reports of States, and yearly and monthly reports of cities.*

**ALABAMA—Mobile.**—Month of March, 1891. Population, 31,076. Total deaths, 56, including phthisis pulmonalis 9.

**CALIFORNIA.**—Month of March, 1891. Reports from 86 localities, having an estimated population of 681,497, show a total of 1,251 deaths, including phthisis pulmonalis, 188; enteric fever, 15; scarlet fever, 3; diphtheria, 68; croup, 20; measles, 3; and whooping cough, 4. The monthly report says:

Influenza or la grippe continued in an epidemic form during the month. It is now on the wane, and probably by the next report issued it will have disappeared from the State.

**CONNECTICUT.**—Month of March, 1891. Reports to the State board of health from 167 towns, having an estimated population of 744,278, show a total of 1,128 deaths, including phthisis pulmonalis, 122; influenza, 1; enteric fever, 11; scarlet fever, 7; smallpox, 1; diphtheria and croup, 33; measles, 24; and whooping cough, 10.

**KENTUCKY—Louisville.**—Month ended April 4, 1891. Population, 161,129. Total deaths, 312, including phthisis pulmonalis, 39; influenza, 2; enteric fever, 2; scarlet fever, 1; diphtheria, 4; croup, 3; and whooping cough, 1.

**MICHIGAN.**—Week ended April 11, 1891. Reports to the State board of health, Lansing, from 48 observers indicate that typhoid fever and inflammation of bowels increased, and that dysentery, diphtheria, cholera morbus, cerebro-spinal meningitis, inflammation of kidneys, inflammation of brain, typho-malarial fever, whooping cough, remittent fever, and diarrhoea decreased in area of prevalence.

Diphtheria was reported present during the week at 11 places, scarlet fever at 32 places, enteric fever at 4 places, and measles at 36 places.

The following is extracted from the report of the State board of health at its annual meeting:

Doctor Baker reported that he had worked out the cause of influenza. He said its greatly increased prevalence during the last three months

is alarming, because so many other diseases follow that disease, and increase after it increases, the diseases which so increase being consumption, pneumonia, cerebro-spinal meningitis, rheumatism, osteomyelitis, etc., influenza seeming to bring in its train all of these most important diseases. Doctor Baker explained the causation of influenza to the satisfaction of the members present. He stated that the germs of influenza are generally at all times present, but that there must be certain coincident meteorological conditions to irritate the throat and air passages sufficiently to let the germ gain an entrance to the body. These meteorological conditions, in this instance, were the excessive prevalence of north and northeast winds, and the excessive amount of ozone during the past three months.

**NEW YORK—Buffalo.**—Month of March, 1891. Population, 255,664. Total deaths, 488, including influenza, 6; phthisis pulmonalis, 50; enteric fever, 5; scarlet fever, 5; diphtheria, 18; croup, 12; measles, 14; and whooping cough, 2.

**Rochester.**—Month of March, 1891. Population, 133,896. Total deaths, 180, including phthisis pulmonalis, 21; influenza, 1; enteric fever, 2; diphtheria, 2; and croup, 2.

**OHIO—Dayton.**—Month of March, 1891. Population, 61,220. Total deaths, 79, including phthisis pulmonalis, 15; enteric fever, 2; diphtheria, 3; and croup, 3.

**TENNESSEE—Nashville.**—Month of March, 1891. Population, 76,168. Total deaths, 157, including phthisis pulmonalis, 35; enteric fever, 2; measles, 11; and whooping cough, 1.

**WASHINGTON—Seattle.**—Month of March, 1891. Population, 42,837. Total deaths, 82, including influenza, 4; enteric fever, 10; scarlet fever, 1; and whooping cough, 1.

#### *Publications received.*

**Examinations by the State Board of Health of the Water Supplies and Inland Waters of Massachusetts, 1887-1890.**

**Second annual report of the State board of health of Florida, 1890.**

**Annual Report of the St. Lawrence Quarantine Service, by Frederick Montizambert, M. D., F. R. C. S., D. C. L.**

**The monthly bulletin Rhode Island State Board of Health, April, 1891.**

**"Medical Education, Medical Colleges, and the Regulation of the Practice of Medicine in the United States and Canada, 1765-1891; Medical Education and the Regulation of the Practice of Medicine in Foreign Countries," Illinois State Board of Health. John H. Rauch, M. D., Secretary.**

## MORTALITY TABLE, CITIES OF THE UNITED STATES.

Cities.	Week ended.	Population, U. S. Census of 1890.	Total deaths from all causes.	Phthisis pul- monalis.	Deaths from—						
					Yellow fever.	Smallpox.	Varioloid.	Varicella.	Typhus fever.	Enteric fever.	Scarlet fever.
New York, N. Y.	Apr. 18.	1,515,301	1,347	127					25	3	37
Chicago, Ill.	Apr. 18.	1,099,850	848	60					6	10	10
St. Louis, Mo.	Apr. 4.	451,770							1	6	1
St. Louis, Mo.	Apr. 11.	451,770		25				3	2	2	1
Boston, Mass.	Apr. 18.	448,477	235	27				2	1	4	
Baltimore, Md.	Apr. 18.	434,439	194	22				1	1	3	
San Francisco, Cal.	Apr. 11.	298,997	149	24				3	2	2	
Cincinnati, Ohio	Apr. 17.	296,908	152	16				5	9		
Cleveland, Ohio	Apr. 4.	261,353	106	11				3	2	3	2
Cleveland, Ohio	Apr. 11.	261,353	142	13				1	2	2	1
Washington, D. C.	Apr. 18.	230,392	178	21				3	1	6	1
Detroit, Mich.	Apr. 18.	205,876	105	5					4	5	
Milwaukee, Wis.	Apr. 18.	204,468	138	6				2	2	5	2
Minneapolis, Minn.	Apr. 18.	164,738	48					1		3	
Louisville, Ky.	Apr. 18.	161,129	72	8				2	3	1	
Rochester, N. Y.	Apr. 18.	138,000	48					1	1	1	
Providence, R. I.	Apr. 18.	132,043	52						2	2	1
Toledo, Ohio	Apr. 17.	81,434	33	1					4		
Richmond, Va.	Apr. 18.	81,388	34	4							
Nashville, Tenn.	Apr. 18.	76,158	29					2			1
Fall River, Mass.	Apr. 18.	74,398	47	5							
Lynn, Mass.	Apr. 18.	55,727	24	2							
Portland, Me.	Apr. 18.	36,425	8					1			
Binghamton, N. Y.	Apr. 11.	35,006	17	1							
Binghamton, N. Y.	Apr. 18.	35,005	14								
Mobile, Ala.	Apr. 18.	31,076	10	4							
Galveston, Tex.	Apr. 10.	29,084	8								
Auburn, N. Y.	Apr. 11.	25,858	10	2						1	
Auburn, N. Y.	Apr. 18.	25,858	15	3						1	
San Diego, Cal.	Mar. 11.	16,159	5								
Rock Island, Ill.	Apr. 5.	13,634	2							1	
Rock Island, Ill.	Apr. 12.	13,634									
Rock Island, Ill.	Apr. 19.	13,634	5	1							

Table of temperature and rainfall, week ended April 17, 1891.

[Received from War Department, Signal Office.]

Locality.	Mean temperature in degrees Fahrenheit.			Rainfall in inches and hundredths.		
	Normal.	Excess.	Deficiency.	Normal.	Excess.	Deficiency.
<b>New England States:</b>						
Eastport, Me.	39	28	.....	.72	.....	.20
Portland, Me.	41	28	.....	.70	.....	.20
Boston, Mass.	45	42	.....	.85	.....	.20
Block Island, R. I.	44	14	.....	.70	.....	.....
<b>Middle Atlantic States:</b>						
Albany, N. Y.	46	28	.....	.58	.20	.....
New York, N. Y.	48	42	.....	.77	.....	.20
Philadelphia, Pa.	50	56	.....	.69	.90	.....
Atlantic City, N. J.	47	14	.....	.77	.40	.....
Baltimore, Md.	53	50	.....	.76	.36	.....
Washington, D. C.	53	49	.....	.70	1.07	.....
Lynchburg, Va.	56	56	.....	.74	1.10	.....
Norfolk, Va.	56	56	.....	.98	.10	.....
<b>South Atlantic States:</b>						
Charlotte, N. C.	60	56	.....	.84	.....	.40
Wilmington, N. C.	61	56	.....	.71	.....	.40
Charleston, S. C.	63	28	.....	.98	.....	.....
Augusta, Ga.	64	56	.....	.90	.....	.90
Savannah, Ga.	66	28	.....	.96	.....	.60
Jacksonville, Fla.	69	28	.....	.70	.....	.70
Key West, Fla.	76	0	.....	.28	.....	.30
<b>Gulf States:</b>						
Atlanta, Ga.	62	33	.....	.86	.....	.50
Pensacola, Fla.	68	14	.....	.90	.....	.80
Mobile, Ala.	68	14	.....	1.26	.....	1.20
Montgomery, Ala.	66	42	.....	1.26	.....	1.20
Vicksburg, Miss.	67	28	.....	1.54	.....	1.30
New Orleans, La.	70	14	.....	1.26	.....	1.30
Shreveport, La.	68	14	.....	1.33	.....	.30
Fort Smith, Ark.	62	6	.....	1.41	.....	.30
Little Rock, Ark.	63	28	.....	1.12	1.20	.....
Palestine, Tex.	67	28	.....	.98	2.30	.....
Galveston, Tex.	70	0	.....	.70	.....	.50
San Antonio, Tex.	70	14	.....	.83	.50	.....
Corpus Christi, Tex.	70	14	.....	.31	.70	.....
Brownsville, Tex.	74	0	.....	.22	.....	.....
Rio Grande City, Tex.	77	14	.....	.28	.60	.....
<b>Ohio Valley and Tennessee:</b>						
Memphis, Tenn.	62	42	.....	1.33	.....	.50
Nashville, Tenn.	60	42	.....	1.19	.....	.90
Chattanooga, Tenn.	61	56	.....	1.05	.....	.80
Knoxville, Tenn.	59	56	.....	1.22	.....	1.21
Louisville, Ky.	57	56	.....	1.05	.....	.80
Indianapolis, Ind.	52	56	.....	.80	.....	.50
Cincinnati, Ohio.	53	56	.....	.70	.....	.40
Columbus, Ohio.	50	45	.....	.64	.....	.24
Pittsburgh, Pa.	50	42	.....	.63	.....	.20
<b>Lake Region:</b>						
Oswego, N. Y.	42	28	.....	.49	.80	.....
Rochester, N. Y.	43	60	.....	.61	.10	.....
Buffalo, N. Y.	40	42	.....	.56	.....	.....
Erie, Pa.	43	42	.....	.60	.....	.10
Cleveland, Ohio	44	42	.....	.49	.....	.20
Sandusky, Ohio	45	42	.....	.56	.30	.....
Toledo, Ohio	46	42	.....	.49	.80	.....
Detroit, Mich.	46	28	.....	.49	1.40	.....
Port Huron, Mich.	41	42	.....	.42	1.40	.....
Alpena, Mich.	37	28	.....	.49	.....	.....
Marquette, Mich.	36	28	.....	.49	.....	.....
Grand Haven, Mich.	44	14	.....	.56	.10	.....
Milwaukee, Wis.	43	14	.....	.63	.....	.30
Chicago, Ill.	45	28	.....	.77	.20	.....
Duluth, Minn.	38	14	.....	.50	.....	.50
<b>Upper Mississippi Valley:</b>						
St. Paul, Minn.	46	14	.....	.53	.....	.50
La Crosse, Wis.	47	14	.....	.42	.....	.10
Dubuque, Iowa	48	28	.....	.63	.....	.20
Davenport, Iowa	49	28	.....	.57	.20	.....
Des Moines, Iowa	50	28	.....	.57	.....	.....
Keokuk, Iowa	52	28	.....	.63	1.72	.....
Springfield, Ill.	53	42	.....	.66	.16	.....
Cairo, Ill.	59	42	.....	.91	.....	.40
St. Louis, Mo.	57	42	.....	.77	.....	2.16

Table of temperature and rainfall, week ended April 17, 1891—Continued.

Locality.	Mean temperature in degrees Fahrenheit.			Rainfall in inches and hundredths.		
	Normal.	Excess.	Deficiency.	Normal.	Excess.	Deficiency.
<b>Missouri Valley:</b>						
Springfield, Mo.	57	28	.....	.93	.60	.....
Kansas City, Mo.	55	28	.....	.72	.90	.....
Concordia, Kans.	53	42	.....	.76	.80	.....
Omaha, Nebr.	51	28	.....	.70	1.20	.....
Valentine, Nebr.	47	14	.....	.49	.....	.....
Huron, S. D.	46	14	.....	.56	.50	.....
Sully, Fort, S. D.	48	.....	.....	.42	.....	.10
<b>Extreme Northwest:</b>						
Moorhead, Minn.	40	28	.....	.49	.20	.....
Bismarck, N. D.	42	14	.....	.51	.50	.....
Buford, Fort, N. D.	43	28	.....	.28	.70	.....
<b>Rocky Mountain Slope:</b>						
Assiniboine, Fort, Mont.	45	28	.....	.21	.....	.10
Helena, Mont.	45	28	.....	.28	.....	.30
Custer, Fort, Mont.	47	14	.....	.25	.....	.20
Salt Lake City, Utah.	58	.....	14	.56	.10	.....
Cheyenne, Wyo.	43	.....	.....	.35	.....	.10
North Platte, Nebr.	50	14	.....	.55	.20	.....
Denver, Colo.	48	6	.....	.47	.....	.05
Montrose, Colo.	49	.....	5	.42	.....	.42
Pueblo, Colo.	51	14	.....	.42	.....	.40
Dodge City, Kans.	54	14	.....	.35	1.10	.....
Sill, Fort, Ind. T.	62	14	.....	.62	1.10	.....
Santa Fe, N. Mex.	48	.....	14	.21	.....	.20
<b>Pacific Coast:</b>						
Olympia, Wash.	49	28	.....	.77	.....	.60
Portland, Oreg.	53	14	.....	.72	.....	.60
Roseburg, Oreg.	52	.....	.....	.63	.....	.50
Red Bluff, Cal.	60	.....	14	.57	.90	.....
Sacramento, Cal.	56	.....	42	.65	.30	.....
San Francisco, Cal.	56	.....	28	.50	.30	.....
Los Angeles, Cal.	60	.....	28	.42	.40	.....
San Diego, Cal.	59	.....	28	.21	.20	.....
Yuma, Ariz.	70	.....	28	.....	.....	.....

**FOREIGN.**

(Reports received through the Department of State and other channels.)

*Investigations into tubercular processes and the action of tuberculin.*

Passed Assistant Surgeon J. J. Kinyoun, M.-H. S., transmits the following from Berlin, dated April 4, 1891:

I have the honor to report the progress of my studies in the Hygienic Institute at Berlin for the past two weeks.

Since my last report I have practically been pursuing the same course of investigation as previously reported. Considerable work has been accomplished in the investigation of tissue metabolism in tubercular processes. It has been found that there exists in all tissues which have been infected with tuberculosis, a certain definite body, which is extracted by boiling and precipitating. This body has the characteristics of a nucleo-protein, but differs from that body in not being found outside of the tubercular processes. Experiments are now being carried out on animals for the purpose of determining its effects. I am at present just in the midst of this work.

I have also been working with blood serum of certain animals, which are insusceptible to some diseases, for the purpose of observing its effects in the production of immunization. Also, work is progressing on methods for the preservation of these certain serums for "vaccines."

The experiments with "tuberculin" upon animals are progressing favorably, in some respects much more so than could have been expected. To a certain number of animals which had been infected with tuberculosis, and in which the process had become well established locally and generally, tuberculin was given in large doses for the express purpose of exciting around the tubercular nodules the typical cell infiltration concomitant with the administration of the remedy. The animals were, according to the opinion of those who have worked with tuberculin, too far advanced to hope for any improvement, but at least two-thirds of them are improving, the tubercular processes having been greatly modified. The animals are increasing in weight, while others that are used for control show a progressive decline and some have died.

\* \* \* \* \*

Influenza in a mild form has been epidemic for the past two weeks.

*Sanitary commission at Constantinople—Report of United States commissioner concerning rumors of cholera and plague in Syria, Arabia, and on the Red Sea—Report No. 20.*

In my last report I wrote that news from the villages Guoksee and Guesech, near Marash, in Syria, announced the existence of an epidemic which has been considered by the civil authorities of the infected places as cholera. The sanitary physician at Aleppo stated that the disease which caused the death of several persons was not cholera but spotted typhus. Further news announces that the epidemic is spread over the villages of Kiellip, Reha, Amtab, Killis, and Albestan. The doctor sent for could not reach the infected villages on account of the snow. He writes that he has been told that the symptoms of the disease,

which caused the death of several men, were colic, diarrhoea, and vomiting. We must wait a few weeks more, and I hope then to be able to know positively what the disease is.

We are also in the same doubt about an epidemic which broke out at Loheia, on the Red Sea. We do not know if it is the same disease as that which prevails at Assyr in the Yemen, and which I have mentioned in my last report. The number of deaths registered for the month of February in the capital is 1,225. Smallpox has caused the death of 54 persons. The number of deaths registered is very high and it is attributed to inflammation of the respiratory organs.

S. C. ZAVITZIANO.

CONSTANTINOPLE, April 2, 1891.

BRAZIL—*Rio de Janeiro—Yellow fever epidemic.*—Under date of March 16, 1891, the United States sanitary inspector, Dr. R. Cleary, writes as follows:

The following is my weekly report for the week ended March 14, 1891: Population, 450,000. Total deaths, 556, including yellow fever, 231; smallpox, 5; phthisis pulmonalis, 50; enteric fever, 6; typhus fever, 2; and pernicious fever, 13.

The yellow fever epidemic has increased since my last week's report, though the temperature has been lower. The greatest mortality from that disease was on the 14th instant, when 43 died.

CUBA—*Havana—Smallpox and mortality statistics—Neglect of quarantine restraints.*—Under date of April 11, 1891, the United States sanitary inspector reports as follows:

I have the honor to inform you that there were 153 deaths in this city during the week ending April 9. Four of those deaths were caused by smallpox, 5 by so-called pernicious fever, 2 by paludal fever, 3 by croup, 1 by measles, and 1 by glanders.

The mortality from smallpox, it will be noticed, is increasing, and to what extent it may continue to do so it is impossible to surmise, after the astounding license given to an infected vessel, recently arrived from Spain, under the following circumstances: The Spanish mail steamship *Reina Maria Cristina* arrived here, on the 3d instant, with about 900 persons bound for this place and 35 for Mexico, etc. During her voyage of 14 days, from Santander, etc., Spain, smallpox developed on board, from which, during the last week of her trip, several deaths occurred, and she arrived in port with over 10 cases of the loathsome disease. Pratique was almost immediately given, the passengers scattered through the city, and the soldiers, of which she brought over 800, were cared for as soldiers. There were soon over 20 cases of the disease in the military hospital. How much this disease will increase, of course it is impossible to say, for it is not believed that any measures looking toward the prevention of its spreading were taken before the disembarking of the passengers.

EGYPT.—Week ended March 12, 1891. The towns in upper and lower Egypt, including Gizeh and the Suez Canal, show a total of 832 deaths, including phthisis pulmonalis, 48; enteric fever, 42; diphtheria and croup, 1; measles, 6; whooping cough, 7; and smallpox, 4.

**Week ended March 19, 1891.** Total deaths 753, including phthisis pulmonalis, 52; enteric fever, 29; diphtheria and croup, 2; measles, 4; and whooping cough, 12.

**FRANCE—Marseilles.**—Month of March, 1891. Total deaths, 1,039, including smallpox, 48; enteric fever, 18; scarlet fever, 3; diphtheria and croup, 106; measles, 20; and whooping cough, 2.

**GREAT BRITAIN—England and Wales.**—The deaths registered in 28 great towns of England and Wales during the week ended April 4 corresponded to an annual rate of 22.4 a thousand of the aggregate population, which is estimated at 9,715,559. The lowest rate was recorded in Derby, viz, 14.1, and the highest in Hull, viz, 36.5 a thousand.

**London.**—One thousand seven hundred and ninety-nine deaths were registered during the week, including smallpox, 2; measles, 45; scarlet fever, 9; diphtheria, 24; whooping cough, 61; enteric fever, 8; and diarrhoea and dysentery, 11. The deaths from all causes corresponded to an annual rate of 20.9 a thousand. Diseases of the respiratory organs caused 489 deaths. In greater London 2,230 deaths were registered, corresponding to an annual rate of 19.8 a thousand of the population. In the "outer ring" the deaths included measles, 6; whooping cough, 7; and diphtheria, 5.

**Sunderland.**—Two weeks ended March 21, 1891. Population, 138,859. Total deaths, 110, including scarlet fever 5.

Two weeks ended April 4, 1891. Total deaths, 113, including scarlet fever 2 and typhus fever 1.

**Ireland.**—The average annual death rate, represented by the deaths registered during the week ended April 4, in the 16 principal town districts of Ireland, was 25.9 a thousand of the population. The lowest rate was recorded in Newry, viz, 14.0, and the highest in Waterford, viz, 57.9 a thousand. In Dublin and suburbs 162 deaths were registered, including enteric fever, 1; influenza, 1; and whooping cough, 3.

**Scotland.**—The deaths registered in eight principal towns during the week ended April 4 corresponded to an annual rate of 26.2 a thousand of the population, which is estimated at 1,345,563. The lowest mortality was recorded in Aberdeen, viz, 14.5, and the highest in Paisley, viz, 44.4 a thousand. The aggregate number of deaths registered from all causes was 684, including measles, 41; scarlet fever, 5; diphtheria, 9; whooping cough, 28; fever, 3; and diarrhoea, 14.

**INDIA—Calcutta—Cholera.**—The United States consul-general, under date of March 11, 1891, reports 192 deaths from cholera during the week ended February 21, 1891.

*ITALY—Florence—The recent epidemic of enteric fever—Report of the sanitary officer, Dr. Francesco Boncinelli, to the Syndic of Florence—*

FEBRUARY 25, 1891.

SIR: The sanitary condition of Florence, with special reference to typhoid fever, was much improved during 1889 and up to December 15, 1890. Indeed, while during eight previous years, the typhoid fever caused an annual average of 167 deaths, in the year 1889 there were only 100 deaths, and 93 up to the 15th of December, 1890. On this last day the epidemic made its appearance, owing to the sudden and casual filth of the potable water, derived from the smallest of municipal pipes. Although the supposed cause of the disease was withdrawn promptly by the withdrawal of the water distribution, the contagious cases in a few days increased rapidly, and continued from forty-five to fifty days. About the end of January, however, or at the beginning of February, the effects of that general cause which acted contemporaneously upon a large number of persons, ceased, and the epidemic came to an end. It is to be observed that during the epidemic naturally the pre-existing causes of the same did not cease, so that many of the cases ascertained in this short time should be ascribed to it. Notwithstanding, in seventy-one days, that is from December 16 to February 24, the cases reported did not exceed the number of 1,342, averaging 19 daily, and the deaths 222, or 3 per diem.

The cases recorded are divided thus: 624 from December 16 to 31, and 43 deaths; 627 in the month of January, and 147 deaths; 91 from February 1 to 24, and 32 deaths.

The last death occurred on the 21st of February, there being none in these last three days. Considering the epidemic from December 1, 1890, the cases would amount to 1,477 and the deaths to 229.

It is reasonable, therefore, to conclude that at present the typhoid fever has assumed its normal and usual degree and measure, and with regard to it, the sanitary condition of Florence is not different from the customary one, even compared with several of the previous years.

\* \* \* \* \*

NETHERLANDS.—The deaths registered during the month of November, 1890, in the principal cities of the Netherlands, having an aggregate population of 1,176,995, correspond to an annual rate of 20.8 a thousand of the population. The deaths included enteric and typhus fevers, 13; scarlet fever, 4; diphtheria, 38; measles, 40; croup, 17; and whooping cough, 30.

**MORTALITY TABLE, FOREIGN CITIES.**

Cities.	Week ended.	Estimated population.	Total deaths from all causes.	Deaths from—						
				Cholera.	Yellow fever.	Smallpox.	Typhus fever.	Enteric fever.	Scarlet fever.	Diphtheria.
London.....	Mar. 28.....	5,877,390	52,066	.....	.....	.....	.....	14	33	42
Paris.....	Mar. 28.....	2,260,945	1,218	.....	1	7	3	40	37	12
Liverpool.....	Mar. 28.....	620,443	279	.....	2	3	2	.....	.....	.....
Glasgow.....	Mar. 28.....	545,678	336	.....	2	1	1	10	.....	.....
Buda Pesth.....	Apr. 2.....	507,000	225	.....	11	5	1	4	.....	.....
Brussels.....	Mar. 20.....	469,459	225	.....	3	1	6	11	.....	.....
Warsaw.....	Mar. 21.....	455,352	248	.....	.....	.....	.....	.....	.....	.....
Rome.....	Mar. 7.....	417,392	313	.....	.....	8	2	.....	14	4
Lyons.....	Mar. 28.....	401,930	198	.....	.....	.....	.....	2	2	.....
Munich.....	Mar. 21.....	348,000	227	.....	.....	.....	.....	1	2	.....
Odessa.....	Mar. 28.....	295,000	123	1	.....	4	2	12	2	1
Dresden.....	Mar. 21.....	276,085	100	.....	.....	.....	.....	.....	2	.....
Edinburgh.....	Mar. 21.....	275,486	122	.....	.....	.....	.....	.....	.....	.....
Barcelona.....	Mar. 27.....	272,000	173	1	.....	.....	.....	8	2	.....
Palermo.....	Mar. 21.....	250,000	118	.....	2	1	2	.....	.....	.....
Palermo.....	Mar. 28.....	250,000	129	.....	2	1	3	3	.....	.....
Antwerp.....	Mar. 28.....	238,788	98	.....	1	1	1	2	2	.....
Bristol.....	Mar. 28.....	235,171	111	.....	.....	.....	.....	1	.....	.....
Rotterdam.....	Mar. 28.....	209,137	121	.....	.....	.....	.....	.....	.....	.....
Rotterdam.....	Apr. 4.....	209,137	106	.....	.....	.....	.....	.....	.....	.....
Prague.....	Mar. 21.....	183,085	125	1	.....	1	2	3	3	.....
Prague.....	Mar. 28.....	183,085	124	2	1	1	2	2	2	.....
Genoa.....	Mar. 27.....	180,531	114	.....	.....	.....	.....	2	2	.....
Genoa.....	Apr. 4.....	180,531	126	.....	.....	.....	.....	1	1	.....
Frankfort-on-the-Main.....	Mar. 21.....	179,850	66	.....	.....	.....	.....	6	6	.....
Konigsberg.....	Mar. 29.....	161,200	57	.....	.....	.....	.....	1	1	.....
Trieste.....	Mar. 21.....	158,054	100	.....	.....	.....	.....	2	2	.....
Venice.....	Mar. 14.....	158,019	112	1	.....	1	1	1	1	.....
Venice.....	Mar. 21.....	158,019	91	.....	1	1	1	1	1	1
Ghent.....	Mar. 28.....	158,019	85	.....	2	1	1	1	2	4
Ghent.....	Mar. 21.....	153,740	80	.....	1	1	2	2	5	2
Christiania.....	Mar. 28.....	153,740	85	.....	1	1	1	3	3	3
Christiania.....	Mar. 21.....	150,444	63	.....	1	1	1	1	1	1
Nuremberg.....	Mar. 28.....	150,444	62	.....	1	1	1	1	1	1
Stuttgart.....	Mar. 14.....	142,523	80	.....	1	1	1	1	1	1
Bremen.....	Mar. 21.....	139,659	50	.....	1	1	1	1	1	1
Danzig.....	Mar. 21.....	125,000	65	1	.....	1	1	3	1	1
Danzig.....	Mar. 21.....	120,000	54	.....	1	1	1	1	1	1
Stettin.....	Mar. 28.....	120,000	52	.....	1	1	1	3	1	1
Stettin.....	Mar. 21.....	116,000	40	.....	1	1	1	1	1	1
Havre.....	Mar. 28.....	116,000	60	.....	1	1	1	1	1	1
Catania.....	Mar. 28.....	112,074	76	.....	1	1	1	1	1	1
Gothenburg.....	Mar. 29.....	110,000	65	.....	1	1	1	1	1	1
Aix-la-Chapelle.....	Mar. 28.....	104,276	33	.....	1	1	1	2	1	1
Leghorn.....	Mar. 29.....	103,995	56	.....	1	1	1	1	1	1
Rheims.....	Mar. 29.....	103,854	68	.....	1	1	1	1	1	1
Zurich.....	Apr. 4.....	97,903	53	.....	1	1	1	1	1	1
Edinburgh.....	Mar. 28.....	91,323	32	.....	1	1	1	5	10	10
Mannheim.....	Mar. 21.....	80,736	24	.....	1	1	1	1	1	1
Trapani.....	Mar. 28.....	80,000	33	.....	1	1	1	1	1	1
Trapani.....	Mar. 21.....	43,095	8	.....	1	1	1	1	1	1
Marsala.....	Mar. 28.....	43,095	9	.....	1	1	1	1	1	1
Marsala.....	Mar. 21.....	40,131	26	.....	1	1	1	1	1	1
Barranquilla.....	Mar. 28.....	40,131	17	.....	1	1	1	1	1	1
Barranquilla.....	Feb. 8.....	30,000	13	.....	1	1	1	1	1	1
Barranquilla.....	Feb. 15.....	30,000	8	.....	1	1	1	1	1	1
Barranquilla.....	Feb. 22.....	30,000	23	.....	1	1	1	1	1	1
Barranquilla.....	Mar. 15.....	30,000	12	.....	1	1	1	1	1	1
Schiedam.....	Mar. 28.....	25,437	14	.....	1	1	1	1	1	1
Schiedam.....	Apr. 4.....	25,437	11	.....	1	1	1	1	1	1
Cartagena.....	Mar. 28.....	25,000	11	.....	1	1	1	1	1	1
Cardenas.....	Apr. 5.....	25,000	10	.....	1	1	1	1	1	1
Gibraltar.....	Mar. 22.....	23,981	16	.....	1	1	1	1	1	1
Gibraltar.....	Mar. 29.....	23,981	12	.....	1	1	1	1	1	1
Girgenti.....	Mar. 21.....	23,547	13	.....	2	1	1	1	1	1
Girgenti.....	Mar. 28.....	23,547	12	.....	1	1	1	1	1	1
Lucerne.....	Mar. 31.....	20,800	34	.....	1	1	1	5	5	5
Licata.....	Mar. 21.....	19,000	10	.....	1	1	1	1	1	1
Licata.....	Mar. 28.....	19,000	7	.....	1	1	1	1	1	1
Matamoras.....	Apr. 4.....	16,000	11	.....	1	1	1	1	1	1
Bio Grande do Sul.....	Feb. 21.....	16,000	18	.....	1	1	1	1	1	1
Bio Grande do Sul.....	Feb. 28.....	16,000	16	.....	1	1	1	1	1	1
Hamilton, Bermuda.....	Apr. 9.....	15,700	1	.....	1	1	1	1	1	1

## MORTALITY TABLE, FOREIGN CITIES—CONTINUED.

Cities.	Week ended.	Estimated population.	Total deaths from all causes.	Deaths from—								
				Cholera.	Yellow fever.	Smallpox.	Typhus fever.	Enteric fever.	Scarlet fever.	Diphtheria.	Measles.	Whooping cough.
Sagua.....	Apr. 4....	15,605	7	.....	.....	.....	.....	.....	.....	.....	.....	.....
Cape Haytien.....	Mar. 7....	15,000	8	.....	.....	.....	.....	.....	.....	.....	.....	.....
Cape Haytien.....	Mar. 14....	15,000	9	.....	.....	.....	.....	.....	.....	.....	.....	.....
Cape Haytien.....	Mar. 21....	15,000	10	.....	.....	.....	.....	.....	.....	.....	.....	.....
Flushing.....	Mar. 28....	13,200	3	.....	.....	.....	.....	.....	.....	.....	.....	.....
Flushing.....	Apr. 4....	13,200	8	.....	.....	.....	.....	.....	.....	.....	.....	.....
Port Stanley and St. Thomas.....	Apr. 1....	11,000	5	.....	.....	.....	.....	.....	.....	.....	.....	.....
Queenstown.....	Apr. 4....	10,340	7	.....	.....	.....	.....	.....	.....	.....	.....	.....
Guelph.....	Apr. 12....	10,173	4	.....	.....	.....	.....	.....	.....	.....	.....	.....
La Guayra.....	Mar. 28....	7,641	2	.....	.....	.....	.....	.....	.....	.....	.....	.....
La Guayra.....	Mar. 21....	7,641	7	.....	.....	.....	.....	.....	.....	.....	.....	.....
Sarnia.....	Apr. 11....	6,200	2	.....	.....	.....	.....	.....	.....	.....	.....	.....
Coaticook.....	Apr. 11....	3,800	2	.....	.....	.....	.....	.....	.....	.....	.....	.....
Puntarenas.....	Mar. 21....	2,200	4	.....	.....	.....	.....	.....	.....	.....	.....	.....
Puntarenas.....	Mar. 28....	2,200	2	.....	.....	.....	.....	.....	.....	.....	.....	.....

OFFICIAL:

JOHN B. HAMILTON,  
*Supervising Surgeon-General, Marine-Hospital Service.*